

The programmable
focusing optics PFO 1D:

Dynamic and
powerful.



Excellent weld seams due to optimized heat input.

The new programmable focusing optics PFO 1D combines benefits from two worlds: the robustness of industrially proven TRUMPF fixed optics and the scanner functionality of the latest generation of programmable focusing optics, PFO. An individually adjustable wobble movement of the laser spot results in the highest weld seam quality, both during heat conduction welding as well as deep penetration applications. Here, the wobble movement and the laser power can be individually adjusted in order to optimize heat input. The focusing optics PFO 1D is also ready for on-the-fly processing, thereby offering full functionality for the highest demands where the stability of welded workpieces and precise tolerances are concerned.

Software solution included.

Programming of the PFO 1D is done via the familiar laser control, TruControl. Alternatively, the user-friendly offline software



PFO 1D: Your benefits at a glance.

- 1 Highest weld seam quality.
- 2 Laser-integrated software solution.
- 3 Gap bridging and flexible connections.

TruTops PFO can be used for defining wobble geometries. This intelligent software solution makes it possible to precisely adjust the laser power required to reduce edge notches and further increase weld seam quality.

Gap bridging and flexible connections.

Tolerances in structural component production and clamping fixtures result in small gaps between workpieces that need to be joined. The new programmable focusing optics PFO 1D improves gap bridging during welding applications, enabling greater tolerances in component and fixture production. This reduces investment costs, lowers production expenditures and gives you the time you need to focus on more important things – such as the further development of your products. Moreover, the width of the weld can be adjusted with flexibility by adapting the wobble amplitude.

	PFO 1D
Available lasers	TruDisk, TruDiode, TruFiber
Max. laser power	8 kW
Max. wobble frequency	1 kHz
Collimation focal length	$f_c = 150 \text{ mm}$
Lens focal lengths	$f = 150/200/300/400/600 \text{ mm}$
Max. deflection ^[1]	$\pm 4 \text{ mm}$, depending on wobble frequency
Dimensions (H x W x D)	562 x 277 x 229 mm
Weight	12.5 kg
Applications	Heat conduction welding, deep penetration welding, hybrid connection welding

^[1] $f = 200 \text{ mm}$. Subject to alteration. Only specifications in our offer and order confirmation are binding.